

PREFACE

The eighteenth International Conference on Laser Spectroscopy was held 24-29 June, 2007 in Telluride, Colorado. Telluride, which is nestled in a box canyon near the south-west corner of the state, proved to be an exceptionally beautiful site for ICOLS-07. Although its remote location and high altitude (2909 m) did present some challenges for our participants, all in all, the setting and facilities were well worth the trip. We were also fortunate to experience warm, clear weather for the entire week of the conference.

In keeping with its rich tradition, ICOLS-07 was truly an international gathering with 173 delegates and 34 accompanying guests from 21 countries (Australia, Austria, Canada, China, Denmark, France, Germany, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Poland, Russia, South Africa, Sweden, Switzerland, Taiwan, United Kingdom, and the United States). The technical program consisted of 34 invited talks arranged in the general topic areas of degenerate quantum gases, quantum information and control, precision measurements, fundamental physics and applications, ultra-fast control and spectroscopy, novel spectroscopic applications, spectroscopy on the small scale, cold atoms and molecules, single atoms and quantum optics, optical atomic clocks. We are indebted to the ICOLS-07 program committee for their time and effort in putting together an exceptional and broad technical program; but most importantly, we are indebted to all of the ICOLS-07 attendees whose participation and vibrant exchange of ideas provided the real strength and foundation of the Conference. In addition to the daily oral sessions, Monday and Tuesday evenings were spent in active discussions around 200 outstanding contributed posters. With only limited time available for the oral and poster sessions, ICOLS-07 necessarily focused on but a few areas of the ever expanding field of laser spectroscopy.

Unfortunately, with the time demands imposed by the rich technical program, we could only block out a few hours Wednesday afternoon to sample the abundant outdoor activities and recreational opportunities around Telluride. Wednesday evening we joined forces with two local science education organizations in Telluride, the Pinhead Institute and Telluride Science Research Center, for a town talk on quantum computing presented by Rainer Blatt. After the technical sessions on Thursday, we gathered in the Telluride Town Park for an informal banquet/picnic/party, complete with music, good food, hula-hoops and slack-lines.

Following the lead of the 2005 conference, we have continued the web-based presence and archive for ICOLS at www.laserspectroscopy.org. This year, in addition to this publication by World Scientific of the manuscripts submitted by our invited speakers, we have compiled a DVD that contains pdf images of most of the ICOLS posters and some of the oral presentations. Hopefully, these records will provide a useful reference and at least a snap-shot of some major research activities in Laser Spectroscopy, circa 2007. The DVD and website also contain some memorable photos from ICOLS-07.

Not surprisingly, there were also a few “issues” along the way. Serious delays were caused by the late loss of a major lodging provider which negatively impacted attendance, caused logistic problems, and resulted in the use of condominium-style lodging for most attendees. It was also most unfortunate and sobering that some delegates (at least 5 from China and one from India) were forced to cancel plans to attend ICOLS-07 because of excessive delays in obtaining entry visas to the U.S. The very slow and selective security procedures now in place continue to dampen international scientific exchanges; this is all too reminiscent of the cold-war days of the early ICOLS meetings.

Many people and organizations contributed to the ultimate success of ICOLS-07. The conference was only possible because of the generous support of our industrial and organizational sponsors listed below. For local organization, we are especially indebted to Svenja Knappe, Ying-Ju Wang, Lisa Barnes, Lindsey Wilson, Viki Bergquist and Andrew Novick. A very special thanks goes to Bill Fairbank and Siu-Au Lee for assistance with logistics that went well beyond the call of duty. The staff of the Telluride Conference Center and the excellent audio-video services of Curt Rousse allowed us to concentrate on the science rather than on the facilities, meals and hardware. Wayne Itano deserves special recognition for his selfless contribution of time and energy in constructing and maintaining the ICOLS-07 website. Didi Leibfried did an outstanding job with all aspects of the poster sessions. Our sincere thanks also go Erling Riis, Allister Ferguson and Ed Hinds, the organizers of ICOLS-05, for invaluable advice and carryover support. Last but not least, we were extremely fortunate to have connected with the Telluride Science Research Center for organizational arrangements and conference operations. It was a real pleasure to work with Nana Naisbitt, Kari Koch and others of TSRC who did a splendid job in bring all the pieces together efficiently and in addressing numerous issues. Our sincere thanks to all involved with ICOLS-07.

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